

**Abstract**

The present invention provides a masking system for selectively applying cells to predetermined regions of a surface. A mask is positioned adjacent to a surface to cover some portions of the surface while allowing other portions of the surface to remain uncovered.

5 Cells then are applied to uncovered portions of the surface and the mask removed.

Alternatively, a cell-adhesion promoter is applied to uncovered portions of the surface, and then cells are applied to the surface before or after removal of the mask from the surface.

The masking system can be pre-coated, at least on those surfaces which will come into contact with cells, with a cell-adhesion inhibitor to resist absorption of cells and thereby

10 avoid cell damage when the mask is removed (if cells are deposited prior to removal of the mask). A polymeric elastomeric mask that comes into cohesive-conformal contact with a surface to be patterned can be used.